IMMUNOFLUORESCENT STUDY OF ACUTE RESPIRATORY DISEASES (ARD) SPREADED AMONG THE POPULATION OF VARNA AND DEVNYA DURING THE PERIOD SEPTEMBER 1980 — MARCH 1981

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ARD are most oftenly distributed among all age groups of the population of any district and country. They are a very serious reason for important economical and social disturbances. Influenza virus is one of the most often isolated during any wave of ARD. Almost 15—20% cases with temporary labour disability are due to influenza. Very close to that come adenoviral infections, being strongly on the second place for ARD. Usually the latter precede the influenza waves and though they show no season characteristics, it is already proved that they are oftener during pre-epidemic influenza periods. Very often both viral agents associate and are established simultaneously in patients' materials. Some other reasons for ARD can be also the respiratory-scincitial virus, picorna viruses, Mycoplasma pneumonia, etc. The modern routine methods of isolation and identification of the respiratory viruses are yet laboursome and long. Therefore, many authors try to apply new approaches for an early detection of the etiological agents of ARD (1, 2, 4, 6, 7).

According to the opinion of the majority of them most suitable method for the moment is the immunofluorescent one, which provides a proper diagnosis at least with 60—80% of all cases, specially when it is a question of an epidemic wave. This method is perspective and acurate, providing a visual reaction of the complex antigen-antibody. Due to its high specificity, sensitivenesses, easiness, quickness and simplicity it ensures the morphological study of the process virus-cell (3).

The method has a wide application in our everyday diagnostic practice and this work is a demonstration of our studies.

Materials and methods

407 materials from patients with a diagnosis "bronchopneumonia", "influenza", "tracheobronchitis", "rhinopharyngitis" or "acute cathar of upper respiratory tract" were studied. The patients were accepted in Varna hospitals and Department of Professional Diseases, Devnya. The materials were taken at the time of first examination of the patients, without age grouping.

During the investigation an influenza epidemic wave was developing which, of course, increased the number of the respiratory diseases caused by other viral agents. The materials were taken by means of a sterile tampon and smears were made from the rhino-laryngeal cavity. After that routine methods were applied, such as the direct immunofluorescent method; to suppress the unspecific immunofluorescence a concentration of 1:60000, even 1:80000, of Ewans'blue was used (3, 5).

The following sera were applied in the study: conugated with fluoresceiniso-tyocyanate antisera against influenza virus H_1N_1 and H_2N_2, PG-total, Adenovirus — polyvalental; all sera were kindly held to us through the Institute of Infectious and Parasitic Diseases, Sofia.

The investigations were performed under the FLUOVAL-microscope (DDR).

Results and discussion

From all 407 investigations, done during the period September—March, 218 (53.56%) were negative. We accept the result as "negative" if there were no epithelial cells in the preparation; this influences to a certain degree the actual results. The rest 189 (46.44%) were positive. 47 (24.86%) of them were influenza H_1N_1-positive; highest percent of positive results was established during February, when the epidemic wave had its peak, 42.30%. Influenza H_2N_2 had its highest percent during January—February: 25—34.61%, and this was also in connection with the developed epidemic wave. During September—October there were no positive results for influenza viruses, November—December we registered only a few of them, but it must be pointed out that the respiratory diseases in this period were very rare. The results of both types influenza virus were rather analogous which made us accept that the diseases caused by them were a result of an influenza virus, type A.

The results of the investigated Adenoviral infections confirm our previous studies as well as the opinion of some other authors. Influenza epidemic waves are usually preceded by an increase of the number of respiratory diseases caused by Adenoviruses. Table 1 shows that highest percent (30%) of positive Adenoviral infections was established in December, when there were just a few cases of Influenza infections. In January the level was still high — 17.18%, but later, in February, it went down considerably, whereas in March there were almost no positive results.

It is worth-mentioning that some of the positive results show an association between influenza and adeno-viruses. It is highest in December (27.5%), followed by January — 10.93%, in February it's almost missing and in March it is not detected at all.

Parainfluenza positive results were established only in January; single cases with parainfluenza viruses were only 3, out of 46 positive. From all them 8 (12.5%) were associated with influenza viruses and only 2 with Adenoviruses. The level of PG infections in February and March was still low: 4.68—5.76%.

The simultaneous detection of both influenza viruses: H_1N_1 and H_2N_2, was oftener established in December—January (17.5% and 7.81%).

Conclusions

1. During the investigation period most often reason for ARD is the influenza virus type A.
2. The rest viral agents are rarer established and these results coincide with our previous results and studies.
3. From etiological point of view associated viral infections are rather often — 7.40%.

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ИММУНОФЛЮОРИСЦЕНТНЫЕ ИССЛЕДОВАНИЯ ОРЗ СРЕДИ НАСЕЛЕНИЯ ВАРНЫ И ДЕВНИ ЗА ПЕРИОД С СЕНТЯБРЯ 1980 ПО МАРТ 1981 Г. Г.

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РЕЗЮМЕ

С помощью наиболее эффективного в наше время метода быстрой диагностики ОРЗ — иммунофлюорисцентного, авторами прослеживается распространение ОРЗ среди населения всех возрастных групп. Результаты показывают, что за период исследования в этиологии ОРЗ участвуют преимущественно гриппные вирусы типа А. Применяемый иммунофлюорисцентный метод оказывается наиболее эффективным и перспективным для ранней диагностики ОРЗ.